

WHAT IS CLAIMED IS:

1      *Sub B2*      1. A method for establishing a connection between a receiver and a  
2 transmitter, located at a distance from each other, comprising the steps of:  
3                 sending lightwaves carrying data signals and beacon light from the transmitter,  
4                 using an acquisition receiver for acquiring the lightwaves in the receiver,  
5                 generating acquisition sensor signals from the received lightwaves in the  
6 receiver,  
7                 wherein, the lightwaves conducted in the receiver are fed to a beam splitter, an  
8 acquisition sensor and a scanning device, and  
9                 by means of the scanning device, an additional signal is obtained, which is  
0 used to make acquisition easier.

1                 2. The method in accordance with claim 1,  
2                 wherein light from the scanning is conducted over a first lightwave fiber to a  
3 diplexer, and light is split off from this diplexer and conducted to a detector over a second  
4 lightwave fiber, which provides an additional signal for making acquisition easier.

1                 3. The method in accordance with claim 2,  
2                 wherein light, which arrives via the first lightwave fiber and the diplexer, is  
3 also conducted to an optical waveguide coupler, in which this light, and light from a local  
4 laser conducted through a third lightwave fiber, are mixed, wherein the mixed light is split  
5 into two parts, each of which reaches a further detector via respective further lightwave fiber  
6 for generating at least one error signal.

1                 4. A device for establishing a connection between a receiver and a  
2 transmitter, comprising:  
3                 a receiver telescope and a fine alignment mechanism with a beam splitter,  
4                 which beam splitter is designed to provide light via optical means to an acquisition sensor, as  
5 well as to a scanning device, and,  
6                 with the aid of the scanning device, both a useful signal, and an additional  
7 signal, which is effective independently of or together with the acquisition sensor signal in  
8 the acquisition phase, are obtained.

2        5.      The device in accordance with claim 4,  
3                    wherein the scanning device is connected via a first lightwave fiber with a  
4                    diplexer, downstream of which a detector is connected via a second lightwave fiber and  
5                    provides an additional signal for making acquisition easier.

1        6.      The device in accordance with claim 5,  
2                    further comprising an optical waveguide coupler, whose input is connected via  
3                    a third lightwave fiber with the diplexer and which, with coherent heterodyne reception,  
4                    mixes light arriving from the diplexer and light from a local laser, conducted over a fourth  
5                    lightwave fiber, and split into two parts, which reach a detector via a respective further  
6                    lightwave fiber for generating at least one error signal.

1        7.      The device in accordance with claim 5, further comprising a first  
2                    detector connected with a discriminator, which delivers an additional signal to a system  
3                    control.

1        8.      The device in accordance with claim 7,  
2                    further comprising a second discriminator, connected downstream of said  
3                    detector, which delivers at least one error signal to said system control.

5        9.      The device in accordance with claim 7,  
                  wherein the scanning device is connected to a control, which provides  
                  command signals for a discriminator.

10      10.     The device in accordance with claim 4,  
                  wherein the receiver telescope is connected to the system control by means of  
                  a **CPA** control or an **FPA** control.